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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,434	11/15/2000	Edwin X. Graf	VOI0164.US	3225

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EXAMINER

JAGAN, MIRELLYS

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 03/11/2002

43  
(restart)

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/713,434

Applicant(s)

GRAF ET AL.

Examiner

Mirellys Jagan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Specification*

- ✓ 1. The disclosure is objected to because of the following informalities: Reference number "2" should be changed to --22-- on page 5, line 19. Appropriate correction is required.

### *Drawings*

- ✓ 2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of claims 12-14 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

- ✓ 3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "18a" is not in the figures. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

- ✓ 4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Reference number "8a"

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in figure 1. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

- ✓ 5. The drawings are objected to because the lead lines for reference number "15a" are leading to a part of the frame instead of the trailing arm. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### *Claim Objections*

6. Claims 1, 2, 4-8, 10-12, 15, and 16 are objected to because of the following informalities:

The term "press apparatus" should be changed to --pressure body-- throughout claims 1, 2, 4, 5, 6, 7, 10, 11, and 16 because the press apparatus, as described in the specification, is a combination of the frame, pressure body, support (support roll), and the air tubes (see page 4, lines 10-13).

Claim 1, Lines 5 and 11: There is lack of antecedent basis in the specification for an "actuator".

Claim 1, Line 7: There is lack of antecedent basis in the specification for the support having a sensor.

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Claim 1, Line 8: There is lack of antecedent basis in the specification for “the at least one belt or felt”, since the use of no more than one belt is disclosed and the felt is always used along with the belt.

Claim 1, Line 9: It is not clear how the web can pass through the gap “beneath the sensor” if the sensor is located in the support. If the sensor is located in the support, as stated in line 7, the web would pass through the gap over the sensor.

Claims 4, 7, 8, and 16, Lines 3, 2, 2, and 8, respectively: There is lack of antecedent basis in the specification for “the at least one belt or felt”, since the use of no more than one belt is disclosed and the seals/arms do not contact the felt.

Claims 5, 10, and 12, Lines 1-2, 2, and 6, respectively: There is lack of antecedent basis in the claims for “support means”.

Claim 6, Line 1: There is lack of antecedent basis in the specification for an “actuator”.

Claim 12, Line 7: There is lack of antecedent basis in the specification for “the at least one belt” since the use of no more than one belt is disclosed.

Claim 15: Line 2: “or” should be changed to --and--, and “the web” should be changed to --the paper web--.

Claim 15, Line 14: The transducers measure the gap above each transducer.

Claims 16 and 17, Lines 13, and 3-4, respectively: There is lack of antecedent basis in the specification for “the felt or belt”, since the arms/seals/transducers do not contact the felt.

Claim 16: Line 14: “over” should be changed to --under--.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 4 and 12-14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In this case, claim 4 claims the use of a transducer in the seal of an arm and a sensor located in either the press apparatus or the support (see claim 1). The specification fails to disclose the sensors being located in the seal and the support simultaneously. Furthermore, referring to claim 12, the specification fails to show where and how the deflection and support rolls are attached to the frame. Claims 13 and 14 are rejected due to their dependency on claim 12.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 combines two different embodiments (the embodiment in figures 1 and 1A with the embodiment in figures 2 and 3) of the press apparatus that is not disclosed to exist simultaneously. Therefore, claim 12 fails to distinctly claim the subject matter that the applicant regards as his invention. Claims 13 and 14 are rejected due to their dependency on claim 12.

*Claim Rejections - 35 USC § 103*

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-11, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,306,258 to Lange et al [hereinafter Lange] in view of U.S. Patent 5,953,230 to Moore.

Lange discloses an air press for a paper web (web) disposed to travel between an upper material and a lower material (upper fabric 22 and lower fabric 24, respectively), the air press having:

a press apparatus (box 34) and a support (roll 124) defining a gap therebetween,

the press apparatus having an air chamber (pressure box 28) for applying pressurized air to the upper material, leading and trailing arms (baffles 36 and 38) with a seal (ceramic shoes 53 and 54) mounted on a distal end of each arm for contacting the upper material in nipping engagement over the support, wherein the upper material is interposed between the paper web and the press apparatus and the seal has an outer surface contoured to conform with the support by having a radius of curvature at least as large as the radius of curvature of the support roll surface,

the support comprising a rotatable support roll having a cylindrical support surface,

a frame (frame 32) moveably supporting the press apparatus,

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an actuator (air tubes 62, 64, 65, and 67) comprising at least one flexible tube operatively disposed between the frame and the press apparatus for moving the press apparatus toward and away from the support by expanding and contracting with pressurized air, and

a controller (which is inherently linked to a sensor) for causing the actuator to move the press apparatus toward or away from the support for controlling an adequate pressure, gap size, and seal between the press apparatus and the support without causing excessive wear to or destroying the web.

Lange does not disclose the upper and lower materials surrounding the paper web as being a belt and a felt, respectively, a sensor comprising a transducer mounted in either the seal or the support, the sensor producing a signal indicative of a pressure on the paper web as the paper web is passed through the gap, and the controller linked to the sensor for determining the measure of the gap as a function of the pressure sensed by the sensor.

Moore discloses a nip width sensing system (1) for a paper web roll press, the sensing system having a sensor (sensor 4) mounted in the nip on a contacting surface between a press apparatus and a support (rolls 5 and 6), the sensor producing a signal indicative of a pressure on a paper web (web) as the paper web and at least one belt or felt (felt 8) are passed through a gap, and a controller (control system 22) linked to the sensor for determining the measure of the gap as a function of the pressure sensed by the sensor, and causing an actuator to move the press apparatus to control the gap size, the controller controlling the pressurized air to provide a predetermined air pressure as a function of the sensor signal to produce a corresponding force in the press apparatus and seal to maintain the gap at a predetermined size as measured by the



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sensor (see figure 1, column 3, lines 55-60, column 4, lines 1-11, 40-47, 59-61, and column 5, lines 1-5, 9-15, and 21-25).

Referring to claims 1 and 16, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the air press disclosed by Lange by using the sensing system disclosed by Moore to obtain more accurate pressure measurements for establishing an adequate seal between the press apparatus and the web without causing excessive wear to or destroying the web.

Referring to claims 3, 10, 11, 16 and 17, Lange and Moore disclose a sensor for measuring pressure. The use of the particular type of sensor claimed by applicant, i.e., transducer, absent any criticality, is considered to be nothing more than a choice of engineering skill, choice, or design because the use of the particular sensor claimed by applicant is considered to be nothing more than the use of numerous and well known alternate types of sensors that a person of ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation in order to measure the pressure at the nip as already suggested by Lange and Moore.

Referring to claims 4, 10, and 16, Moore discloses that the sensor should be placed in the nip on a contacting surface between the press apparatus and the support so as to obtain a proper pressure measurement. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made place the sensor disclosed by Moore on the seals of the air press disclosed by Lange, since the seals of the air press are in the nip and are the contacting surface between the press apparatus and the support, which Moore discloses to be a desirable location for the sensor.

Referring to claims 1-11, 16, and 17, the particular type of material used to make the upper and lower materials disclosed by Lange and Moore, i.e., a belt and felt, respectively, absent any criticality, is only considered to be the use of a “preferred” or “optimum” material out of a plurality of well known materials that a person of ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation based on the intended use of applicant’s apparatus, i.e., suitability for the intended use of applicant’s apparatus. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) where the court stated that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moore in view of Lange.

Moore discloses a sensing system for measuring a gap between a deflection roll and a support roll through which a composite web comprising a paper web disposed on a material travels, the system having:

- a controller (control system 22),

- a pressure source (air),

- a controlled deflection roll (crown roll, which inherently has a center shaft, a hollow roll shell disposed for rotation about the shaft, and a plurality of shoes mounted on the shaft for applying pressure to the roll shell, see for example U.S. Patent 4,793,250 to Niskanen, column 1, lines 18-49),

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a support roll (roll 5) mounted opposite of the deflection roll (6) and forming a gap therebetween, a plurality of sensors (4) mounted in the support roll surface for measuring the gap, the sensors linked to the controller to provide signals indicating the size of the gap,

the pressure source (air) linked to the shoes for providing power to move the shoes,

the controller linked to the pressure source to actuate individual shoes responsive to the signals received from the sensors (see abstract, last 3 lines and column 7, lines 19-24).

Moore does not disclose the paper web disposed between a felt and a belt, and the sensors being transducers.

Lange discloses the paper web disposed between two materials for protecting the paper web.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system disclosed by Moore by placing the paper web between two materials, as disclosed by Lange, in order to protect the paper web from tearing when driven through the press. The particular type of material used to make the materials, i.e., a belt or felt, absent any criticality, is only considered to be the use of a "preferred" or "optimum" material out of a plurality of well known materials that a person of ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation based on the intended use of applicant's apparatus, i.e., suitability for the intended use of applicant's apparatus. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) where the court stated that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious. Furthermore, the use of the particular type of sensors claimed by applicant, i.e., transducers, absent any criticality, is considered to be nothing more than a choice of engineering

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skill, choice, or design because the use of the particular sensors claimed by applicant is considered to be nothing more than the use of numerous and well known alternate types of sensors that a person of ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation in order to determine the gap between the rolls as already suggested by Moore.

14. With respect to claims 12-14: The prior art of record has not been applied to claims 12-14 due to the confusing description and claim language as stated above in paragraphs 8 and 10.

### *Conclusion*

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents disclose gap-measuring devices for press rolls:

U.S. Patent 4,898,012 to Jones et al	U.S. Patent 5,629,487 to Mucke et al
U.S. Patent 5,379,652 to Allonen	U.S. Patent 4,791,863 to Vahatalo
U.S. Patent 4,625,568 to Hartung et al	U.S. Patent 5,592,875 to Moschel
U.S. Patent 4,568,423 to Laapotti	

The following patents disclose controlled deflection rolls:

U.S. Patent 3,853,698 to Mohr	U.S. Patent 4,023,480 to Biondetti
U.S. Patent 4,357,743 to Hefter et al	U.S. Patent 4,480,537 to Agronin et al
U.S. Patent 4,074,624, to Biornstad et al	U.S. Patent 3,119,324 to Justus

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 703-305-0930. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F Gutierrez can be reached on 703-308-3875. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7725 for regular communications and 703-308-7725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

mj  
February 14, 2002



**Diego Gutierrez**  
**Supervisory Patent Examiner**  
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